

Chapter 1 Introduction

1.0 Introduction

Developments in technology are key to the progress and growth of the world economy. The potential growth in data storage, web-based services, mobile commerce(m-commerce), e-business, wireless technology, Internet penetration and increase in purchases of home PCs are expected to growth in Malaysia. In term of composition of exports, electrical and electronic products as a group continues to be the single largest contributor of exports and accounted for 71.4% of the total manufactured export earning in the first eight months of year 2000 (Malaysia annual report, 2000)

In line with developments in the global environment, Malaysia recognizes the need to transform the economy to a knowledge-based economy to take advantage of the opportunities created by the new information and communication technology.

In recognition of this, the Kuala Lumpur Stock Exchange (KLSE) has established a technology sector and a corresponding technology index to highlight KLSE listed companies, which are committed to technological innovation. This new sector and index were launched on 15 May 2000 (KLSE press release, May 2000). The establishment of the technology sector is a vital, proactive effort in informing and assisting investor to track technology sector investment, whilst encouraging technologically innovative companies which are not listed, to seek a listing on the KLSE.

Companies to be considered for inclusion in the technology sector in KLSE should fit the following criteria (KLSE press release, May 2000):

- a) Its business growth and success depends on its ability to develop technology, or on its ability in significantly innovate and apply technology, resulting in

incremental improvements in process and, or value added products and services.

- b) The technology could be new or emerging in Malaysia but it may be matured technology or technology which could have existed for some time in a more advanced country. The company must investing research and development(R&D) and has a dedicated team of qualified R&D personnel.
- c) It is recognized for its capability and achievement in technological innovation. The companies may be from various economic sectors but with the common feature of being technologically innovation.
- d) The companies which are the users as well as developers or innovators of technology being involved in computer hardware and software or electronics or telecommunication.

1.1 Economic Outlook

Malaysia's economy suffered severe setback as result of the financial crisis in 1997. The Malaysian corporate sector experienced a significant loss of wealth as a result of sharp falls in the value of real estates and equities used as bank collateral. Corporate incomes and cash flows also declined, leaving some corporations unable to service their debt. As a result, 26 KLSE-listed companies were unable to service their debt and sought for protection from the court against their creditors (Ahmadu Umaru, Ang Jili, Mohamed Sulaiman, 2001).

Following the terrorist attack on 11 September 2001 on the United States, the outlook of the global economy becomes increasingly uncertain. The attack has not only altered the prospects for an early recovery but also in slowing the adoption of e-business among local enterprises, as the technology investment has declined after the event.

Nevertheless, technology industry leaders remain bullish on the future of e-commerce and telecommunication in Malaysia as the growth in the electronics industry is expected to be underpinned by several positive factors. Firstly, there was a significant draw down of inventories by companies in 2001 and, thus, new orders are expected to result in an immediate increase in production, especially for electronics. The personal computer (PC) market is expected to show a stronger recovery relative to the telecommunications sector. Preliminary findings of the Bank Negara Malaysia 's study on the export composition of Malaysia 's electronics industry showed that exports of computers and peripherals account for about 40% of Malaysia 's total electronics exports. Therefore, the impending improvement in the global PC market should benefit the industry in Malaysia.

Secondly, there is an increasing trend towards outsourcing of activities in the manufacturing sector. As a result, some large manufacturers in the region are expected to transfer some operations to Malaysia following corporate consolidation of plants in the region. Malaysia is expected to benefit from these developments.

Thirdly, demand from niche markets for products such as video games, personal digital assistants and emerging products such as photonics or optoelectronics is expected continue to the growth at 4%. With the electronics and electrical products industries leading output growth in the export-oriented sector, the production of export-oriented industries as a whole is projected to recover in 2002 with a growth of 4.9% (Malaysia annual report, 2001)

1.2 The Stock Price-Volume Relation

Studies on stock market volatility have been well documented in the US market. In the late 20th century, studies on this subject have also been carried out in many Pacific-Basin Capital markets such as Taiwan, Thailand, Singapore, Malaysia, Hong Kong and Korea. Generally, the findings found that the absolute

price changes and trading volume are positively correlated. In the empirical research by Karpoff (1987), he reported that share prices are linearly related to trading volume in developed capital markets.

There are several explanations for the presence of a causal relation between stock prices and trading volume. First, the sequential information arrival models of Copeland (1976) and Jennings, Starks and Fellingham (1981) suggest a positive causal relation between stock prices and trading volume in either direction.

The second explanation is the tax and non tax related motives for trading. Tax related motives are associated with the optimal timing of capital gains and losses realized during the calendar year. Non-tax related motives include window dressing, portfolio re-balancing and contrarian strategies. Lakonishok and Spmids (1989) show that current volume can be related to past stock price changes due to tax and non tax related trading motives. The dynamic relation is negative for the related trading motives and positive for certain non tax related trading motives.

A third explanation involves the mixture of distributions models of Clark (1973) and Epps and Epps (1976), trading volume is used to measure disagreement as traders revise their reservation price based on the arrival of new information into market. The greater disagreement among the traders, the larger of the level of trading volume. Their model suggests a positive causal relation running from trading volume.

The fourth explanation for causal relation between stock returns and trading volume is the noise trader models. These models can reconcile the difference between the short and long run auto correlation properties of aggregate stock returns. Aggregate stock returns are positively auto correlated in the short run, but negatively auto correlated in the long-run. A positive causal relation form

stock returns to volume is consistent with the positive feedback trading strategies of noise traders, for which the decision to trade is conditioned on past stock price movements.

In the study of Izani and Yaccob (2000), they revealed that investors in KLSE should expect the association of returns and volume to be greater when the market is in the upward trend and less in the downward trend. If risk is reflected in price, then unusual increase in volume traded may indicate a highly speculative market. Causality tests can provide useful information on whether knowledge of past stock price movements improves short run forecasts of current and future movements in trading volume and vice versa (Craig Heimstra, 1994).

1.3 Efficient Market Hypothesis

The idea of an efficient market describes time series independence of price formation in a competitive market where prices react rapidly to randomly arriving information (Fama, 1991). The literature on capital market efficiency has grown substantially and the cumulative evidence from developing country share markets support the general validity of Efficient Market Hypothesis (EMH) (Annuar et.al, 1991, Barnes 1986, Hong, 1978). Findings from the traditional tests using Q- statistics suggest that the KLSE is weak form efficient (Annuar, 1993).

1.4 Objective of Study

The main objective of this study is to examine the market value for Technology Sector of KLSE Main Board as Technology Sector plays a vital role in Malaysia economy. Hence, this study will test

- (a) whether any significant association between volatility of trading volume and the closing stock prices of the stocks in Technology Sector of KLSE Main Board
- (b) the implications to the Efficient Market Hypothesis on stocks in Technology Sector of KLSE Main Board

1.5 Scope of study

Many studies on the Malaysian share market are focus on the relationship between trading volume, returns and volatility of share price on the main board on KLSE (Izani Ibrahim, 2000; Annuar and Shamser, 1998). No previous study was conducted to analyze the impact of volume of trade on share price in Malaysia (Ariff, Shamser and Annuar, 1998). The study conducted by Cheah (2001) on the telecommunication industry has clearly reveals that the volatility in the volume of trade can cause price movement in the Granger causality. Hence, this study aims to extend the research which will explore the relationship between volatility of trading volume and stock prices in Technology Sector of KLSE Main Board. The study takes daily data between June 2000 and June 2002 with 573 pairs of observations for each company in Technology Sector.

1.6 Organization of Study

The study is organized into five chapters.

Chapter I introduces the establishment of technology sector to highlight KLSE listed companies which are committed to technological innovation, economy outlook of Malaysia, the stock price-volume relation, Efficient Market Hypothesis, objectives and scope of study.

Chapter II describes the literature review, empirical surveying conducted by previous researchers on the relationship between volatility of trading volume and closing stock prices.

Chapter III encompasses the research methodology, data source, data collection procedures, formulation of research hypothesis, Bivariate Correlation, research instruments and statistical analysis techniques used to analyze the research data.

Chapter IV presents the results of the study obtained from the application of statistical methods to test the hypothesis. The results of all companies listed in Technology Sector of KLSE Main Board will be discussed separately.

Chapter V presents an overview of the study, implication on the Efficient Market Hypothesis (EMH), limitation of study and recommendations for future research.